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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/622,061

07/17/2003

Kazuyuki Miyabe

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Norman P Soloway Esq
Hayes Soloway PC
3450 E Sunrise Drive Suite 140
Tucson, AZ 85718

EXAMINER

NGUYEN, TUAN N

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

EF

Office Action Summary	Application No. 10/622,061	Applicant(s) MIYABE ET AL.	
	Examiner Tuan N. Nguyen	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/7/05</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. In response to applicant's amendment filed 11/07/2005, claims 1, 8, 9, 10 have been amended, and claim 17 has been added.
2. Amendment to the specification filed 11/07/2005 has been accepted.

Drawings

3. Substitute drawing for figure 5, and 6 filed 11/07/2005 has been accepted.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or non-obviousness.
5. Claims 1, 2, 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art Figure 1 & 2 (PRIOR ART).

With respect to claim 1 Applicant's Prior Art (Fig 1-2) show a semiconductor laser device comprising: a heat radiating block (*Fig 1, 2: 101, 1 block or substrate to radiate heat*), one or more first semiconductor laser element(s) (*Fig 1, 2: 31, 32- first and second semiconductor laser elements*) arranged on said heat radiating block (*Fig 1, 2: laser elements 31, 32 on heat radiating block 1, 101*) in a manner where one electrode is in direct physical contact therewith [*(Fig 2: 65, 61, 1 - "65,61- electrode and solder is electrode conductive material" is in direct physical contact with the semiconductor laser 32 and the block 1 - "block 1 also contain elements 2 &3 n-p semiconductor") (Fig 1: 24, 31, 32 - where one electrode 24 is in direct physical contact with semiconductor 31/ 32) (or Fig 1: 65, 61 - where one electrode "65,61- electrode and solder is electrode conductive material" is in direct physical contact with the semiconductor laser 32)*]. The claim further require that one or more second semiconductor laser element(s) arranged on said heat radiating block in an electrically insulated manner via a dielectric layer, Fig 2 did not shows the use of dielectric layer between the semiconductor laser and the heat radiating block, however Figure 1 shows (*Fig 1: 32, 5, 101 - laser element 32 on heat radiating block 101 via a dielectric layer 5*). It has been held that rearranging parts of an invention involves only routine skill in the art, in this case combining the two lasers devices structure on same heating block. *In re Japikse, 86 USPQ 70.*

With respect to claims 2-4 Applicant's Prior Art (Fig 1) shows both semiconductor laser integrate on the same block or chip (*Fig 1: 31, 32 laser elements on same block*), where one electrode of first semiconductor is in contact with the block (*Fig 1: 31 first laser element in*

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contact with the block) and second laser is on dielectric layer (Fig 1: 32, 5 – second laser element 32 on dielectric layer 5), where heating block is a semiconductor.

6. Claims 5-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art (Figure 1 & 2) PRIOR ART, in view of Uchisaki et al. (JP 2000-011417).

With respect to claims 5-7, PRIOR ART discloses the above. The claim further requires a photodiode built onto heat radiating block. Uchisaki et al. '417 discloses two semiconductor lasers on a heating block with light monitor photodiode build on the heat block (Fig 5: 31, 41, 37, 38). It would have been obvious to one of ordinary skill in the art to provide the PRIOR ART the photodiode as taught or suggested by Uchisaki et al. '417 for monitor and control the laser output, in relation with the amount of heating generates, to control and affecting the wavelength output.

With respect to claim 8-10, the claims further require the dielectric layer is formed of a material selected from SiO, SiN, TiO, AlO, and AlN. Uchisaki et al. '417 discloses the materials used in the semiconductor (Col 28: 354 AlN, 230 SiO) and others. It is within the general skill of a worker in the art at the time the invention was made to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

With respect to claims 11-13, the claims further require wherein said first semiconductor laser element is greater in heat generation during driving or smaller in heat radiation from an element exposed surface than said second semiconductor laser element. It has been held that

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where the general conditions of a claim are disclosed in the prior art, disclosing the optimum or workable ranges involves only routine skill in the art, in this case the laser elements can be driven independently therefore each laser element can generate different amount of heat, and the size of the electrode conducting heat to the heating block can be increase or reduce to remove heat does not exceed a matter of design. In re Aller, 105 USPQ 233.

With respect to claims 14-16, the claims further require that the first laser emits a 650nm band wavelength and the second laser emits 780nm wavelength. Uchisaki et al. '417, discloses the first and second lasers emit the 650nm and 780nm (Col 28: 240, 241).

With respect to claim 17, PRIOR ART and Uchisaki et al. (JP 2000-011417) disclose the above, the claim further require wherein said first semiconductor laser element and said photodiode are electrically insulated by a p-n structure formed on the surface of said semiconductor substrate. Applicant's Prior Art (Fig 2) further shows (the first semiconductor laser element "31" is electrically insulated with p-n semiconductor materials "2 & 3" on top of block substrate 1). It would be within one skill in the art to have the first semiconductor laser element and photodiode electrically insulated by a p-n structure formed on the substrate as shown by Applicant's Prior Art.

Response to Argument/

7. Applicant's arguments filed on 09/01/2005 have been fully considered but they are not persuasive. The examiner read the claims given their broadest reasonable interpretation

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consistent with the claims and specification. See *In re Paulsen*, 30 F.3d 1475, 1480, 31 USPQ2d 1671, 1674 (fed. Cir. 1994); *Intervet America Inc. v. Kee-Vet Lab. Inc.*, 887 F2d 1050, 1053, 12 USPQ2d 1474, 1476 (Fed. Cir. 1989).

On page 9, the applicant argued that the amended claim requires “one or more first semiconductor laser elements in which an electrode is in direct physical contact with the block, and one or more second semiconductor laser elements electrically insulated from said heat radiating block via a dielectric layer.” See claim 1 rejection explanation. The point of installing a plurality of semiconductor laser elements on the same substrate by direct contact and via a dielectric layer has shown in Applicant’s Prior Art figures 1 & 2 and is obvious within one skill in the art.

Conclusion

8. The prior art made of record and relied upon is considered pertinent to applicant’s discloses.

OKADA MASATAKE (JP 2000-392750).

9. Applicant’s amendment necessitated the new ground(s) of rejection presented in this office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F: 7:30 - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harvey Minsun can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan N. Nguyen



Amend R
for
Minsun Harvey
Supervisor
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